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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,235	08/22/2003	Dominique Billieres	1035-SC4287	9381

34456 7590 03/14/2007  
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AUSTIN, TX 78730

EXAMINER
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BALDWIN, GORDON

ART UNIT	PAPER NUMBER
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1775

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/14/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/646,235

Applicant(s)

BILLIERES ET AL.

Examiner

Gordon R. Baldwin

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1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-12, 14 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 11-12, 14, and 41-43 is/are rejected.
- 7) ☐ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

**In response to after-final of 2/20/2007, prosecution is reopened.**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-5 and 7-12 and 14 and 41-43 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (U.S. Pat. No. 3,968,303).**

Consider claims 41-43 and 7, 8, Harris teaches a substrate of aluminum oxide, that has a coating of lanthanum oxide in which the lanthanum makes up 25-90% of the mixture by weight. (Col. 4 lines 1-25, Col. 6 lines 43-50) However, Harris does not specifically teach an adhesion strength of 20, 25 or 30 MPa, but Harris does teach that the layer needs to be well bonded to the ceramic substrate and if it is not, it will flake or spall-off the substrate under prolonged, arduous service. (Col. 3 lines 67-69 and Col. 4 lines 1-2). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have as high an adhesion strength as strong as possible to counteract flaking and spallation.

Additionally, Harris is considered to teach the use of 95% of a rare earth oxide, because Harris demonstrates the use of more than 95% of lanthanum oxide as a coating that has been applied to a ceramic substrate. (Col. 4 lines 17-25)

**Consider claims 2-5**, Harris teaches that the article can be used in semi-conductor applications, which is considered to be useable in a chamber wall, lid or sidewall, furthermore claims 3-5 do not give specific structural limitations that would differentiate themselves from the article taught by Harris.

**Consider claim 9**, Harris teaches that the coating can be applied by spraying a slurry of the coating material onto the substrate. (Col. 4 lines 37-45) This teaching is considered to encompass thermal spraying and is also considered to be a product-by-process limitation and "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious different between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

**Consider claims 11 and 14**, they are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris. Harris does not expressly teach alpha alumina. Absent a

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showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice (*In re Leshin*, 125 USPQ 416).

Regarding the grain size, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Harris overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, *In re Peterson* 65 USPQ2d 1379 (CAFC 2003).

Also, *In re Geisler* 43 USPQ2d 1365 (Fed. Cir. 1997); *In re Woodruff*, 16 USPQ2d 1934 (CCPA 1976); *In re Malagari*, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

**Consider claim 12**, Harris does not expressly teach alpha alumina. Absent a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice (*In re Leshin*, 125 USPQ 416).

***Response to Arguments***

Applicant's arguments, filed 2/20/2007, with respect to the rejection(s) of claim(s) 1-5, 7-10 and 41-43 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Harris (U.S. Pat. No. 3,968,303).

***Allowable Subject Matter***

**Claim 10** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB

  
JENNIFER MCNEIL  
SUPERVISORY PATENT EXAMINER

3/10/07